3.3 Processing the Core

The sediment core is usually processed in a nearby field facility in order to describe its structure and create subsamples for chemical analysis. This is important to document the core content and to maintain sample quality.

1) Cut the CAB core liner (filled with sediment) lengthwise along opposite sides.

(Note: cut through the liner wall without cutting significantly into the sediment core itself. Disturbed sediment adjacent to the liner wall should not be sampled anyway, but it is important not to contaminate the undisturbed interior of the core with plastic chips or other debris from the cutting process. If, before coring, the outer wall of the CAB liner (1/16" thick) is scored or pre-cut halfway through with a circular saw or other tool, then the final cut during processing can be made with a razor knife. However, CAB plastic is very tough, and cutting with a razor knife can be dangerous and difficult to control without cutting into the core. The best hand tool available for cutting hard plastic liners is an electrical vibrating or "reciprocating" saw of the type used in industry to cut sheet metal, or in medical practice to cut off plaster casts. The cuttings tend to form ribbons rather than chips, which helps in avoiding contamination of the sediment inside. Also, the vibrating blade is much safer to use than a conventional saw blade, since it does not readily cut soft material such as skin.)

2) Once the liner wall is cut through along opposite sides (top and bottom of the horizontal core), use a spatula or a flat, thin blade of rectangular shape to cut the sediment core lengthwise into two half-cylinders. Vertical cutting in discrete steps, rather than "dragging" the blade through the core insures that the layered structure of the core is not obscured, and that contaminants are not spread across layers. Between each vertical cut, wash and scrub all adhering sediment off of the blade in a bucket of clean tap water.

(Note: it is usually not practical to decontaminate the blade fully after each cut, but any chance of contaminant carryover between zones can be minimized by cutting through the less oily parts of the core first. It helps if the blade is wet when cutting through oily silt or stiff clay sediments, which tend to adhere. A cleanly cut surface is best for documenting core structure.)

3) Arrange the two half-cylinders of the core section side-by-side, with the cut surfaces facing up. Extend a tape measure along beside them, starting at the original top end of the core.

4) (Optional) Photograph the core in color with a track-mounted 35 mm camera. With 160 watts (4, 4' bulbs) of fluorescent light, 200 speed film is suitable for good results. Insure that the wet surface of the core does not reflect light directly into the camera lens. A polarizing filter helps to reduce reflectance off the wet core surface. Photograph the core section in overlapping frames; place a small label with core field ID number so that it appears in each frame. Advance the tape measure appropriately for any additional sections of the same core.